Remarks/Arguments

Claims 1 and 3 to 21 are pending. Claims 1, 3 and 5 have been amended, Claims 6 to 21 have been withdrawn.

The Office Action stated: that applicants' election of Group I (Claims 1 to 5) in the reply filed on March 29, 2007 is acknowledged; and that, because applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse.

The Office Action stated: that Claims 6 to 21 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim; and that applicants timely traversed the restriction (election) requirement in the reply filed on March 29, 2007.

The Office Action stated that the rejection of Claims 1 and 3 to 5 under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling, has been overcome by amendment.

The Office Action stated that the rejection of Claim 4 under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling, has been overcome by amendment.

The Office Action stated that the rejection of Claims 1 and 3 to 5 under 35 U.S.C. 12, second paragraph, as being incomplete for omitting essential elements, has been overcome by amendment.

The Office Action stated that the rejection of Claim 4 under 35 U.S.C. 112, second paragraph, has been overcome by amendment.

The Office Action stated that the rejection of Claims 1 and 5 under 35 U.S.C. 102(e) as being anticipated by Ogawa et al. (U.S. Patent No. 6,756,420) has been overcome by amendment.

The Office Action stated that the rejection of Claim 3 under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (U.S. Patent No. 6,756,420) has been overcome by amendment.

Claim 5 has been objected to because of the following informalities: both the cross-linking agent and the polymerizable unsaturated group-containing compound are referenced by "(B)".

The Office Action stated that appropriate correction is required. Claim 5 has been amended to reference such compound by "D".

This objection should be withdrawn.

Claims 1 and 3 have been amended to change "group-modified" to "group-containing". Page 8, lines 20 to 22, of applicants' specification states:

> "An unsaturated group may be introduced into the epoxy resin by addition of the unsaturated group-containing compound (b) to the epoxy resin (a)."

Claim 1 has also been amended to recite "a coating film of the cationic electrodeposition coating composition being cured by both irradiation and heating". Support is found on page 20, bottom line, to page 21, line 7, and Examples 5 to 8 of the original specification.

Claims 1 and 3 to 5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Bremser et al. (U.S. 2003/0127332 or WO 01/64523). Applicants traverse this rejection.

The Office Action stated that these are equivalent documents, and all citations are directed to the U.S. publication.

Regarding Claims 1, 4 and 5:

The Office Action stated as follows:

"*Regarding Claims 1, 4 and 5,* Bremser et al. disclose: (1) a cationic electro-deposition coating composition (Abstract) containing (A) an unsaturated group-modified cationic epoxy resin having a cationic group (Abstract: paragraphs 0053-0068); (B) a cross-linking agent (paragraphs 0085-0086), and (C) a photo-polymerization initiator (paragraphs 0087-0090), the unsaturated group-modified cationic epoxy resin (A) having the cationic group being obtained by reacting an epoxy resin (a) having an epoxy equivalent of 180 to 2500 (paragraph 0060) with an unsaturated group-containing compound (b) (paragraphs 0055-0056) and a cationic group-containing compound (c) (paragraphs 0057-0068); (4) wherein the epoxy resin (a) having an epoxy equivalent of 180 to 2500 is obtained by reacting a poly-phenol compound and an epihalohydrin paragraph 0060); and (5) wherein the cationic electro-deposition coating composition further contains a polymerizable unsaturated group containing compound (paragraphs 0088-0089)."

In connection therewith, Bremser et al. discloses in Claim 1 as follows.

"1. A process for producing multicoat paint systems on electroconductive substrates by a wet-on-wet technique, in which

(I) a cathodically depositable electrocoat material is deposited on the electroconductive substrate,

(II) at least one coating material curable thermally or both thermally and with actinic radiation is applied to the resultant electrocoat film, and then

(III) the electrocoat film and the film of the coating material, or the two said films and at least one further, overlaying film of a coating material, are jointly cured,

wherein the cathodically depositable electrocoat material comprises an aqueous dispersion preparable by

(1) polymerizing an ethylenically unsaturated monomer or a mixture of ethylenically unsaturated monomers in

(2) an aqueous solution of an at least partly protonated epoxy-amine adduct,

(3) the epoxy-amine adduct being obtainable by reacting

(A) at least one glycidyl ether of a polyphenol,

containing on average at least one epoxide group in the molecule,

(B) at least one polyglycidyl ether of a polyol,

containing on average more than 1.0 epoxide group in the molecule, and

(C) at least one compound containing a primary amino group in the molecule,

to give the epoxy-amine adduct, components (A) and (B) being used in an equivalents ratio from 1.0:0.5 to 1.0:8.0, and using from 0.3 to 0.7 mol of component (C) per equivalent of epoxide groups of (A) and (B)."

Further, Bremser et al. discloses, in the Abstract, that electrophorstic paint

contains an aqueous dispersion and can be produced by polymerizing at least one ethylenically unsaturated monomer in an aqueous solution of a protonized epoxy amine adduct.

That is, Bremser et al. disclose the cathodically depositable electrocoat material comprising an aqueous dispersion preparable by polymerizing an ethylenically unsaturated monomer or a mixture of ethylenically unsaturated monomers in an aqueous solution of an at least partly protonated epoxy-amine adduct.

An ethylenically unsaturated group in the ethylenically unsaturated monomer disappear as the result of polymerization, so that the aqueous dispersion, in its turn, the cathodically depositable electrocoat does not contain the ethylenically unsaturated group, i.e., an unsaturated group as in the unsaturated group-containing cationic epoxy resin claimed in amended Claim 1 of this application.

Moreover, Bremser et al. is silent about reacting the ethylenically unsaturated monomer or a mixture thereof with the epoxy-amine adduct differently from the unsaturated group-containing cationic epoxy resin in that the latter is obtained by reacting an epoxy resin (a) with the unsaturated group-containing compound (b) and the cationic group-containing compound (c) as claimed in amended Claim 1 of this application.

The Office Action stated that Bremser et al. discloses a cationic electro-deposition coating composition containing (c) a photo-polymerization initiator (paragraphs 0087-0090).

However, Bremser et al. discloses, in paragraphs 0087-0090, about the coating material applied to the resultant electrocoat film, but do not disclose about the electrocoat material or the cationic electro-deposition coating composition.

The Office Action stated that the unsaturated group-modified cationic epoxy resin (A) having the cationic group being obtained by reacting an epoxy resin (a) having an epoxy equivalent of 180 to 2500 (paragraph 0060) with an unsaturated group-containing compound (b) (paragraphs 0055-0056) and a cationic group-containing compound (c) (paragraphs 0057-0068).

However, Bremser et al., in paragraphs 0055-0056, simply discloses examples of ethylenically unsaturated monomers that are reacted with an epoxy resin, that is, the epoxy resin (a).

Further, Bremser et al., in paragraphs 0057-0068, discloses the epoxy-amine adduct obtained by reacting (A) glycidyl ether of a polyphenol, (B) polyglycidyl ether of a polyol and (C) a primary amino group-containing compound, but does not disclose that the epoxy-amine adduct is reacted with the ethylenically unsaturated monomer.

That is, Bremser et al. does not disclose the unsaturated group-containing cationic epoxy resin (A) obtained by reacting an epoxy resin (a) with an unsaturated group-containing compound (b): and a cationic group-containing compound (c) as claimed in amended Claim 1 of this application.

The Office Action states as follows: (5) wherein the cationic electro-deposition coating composition further contains a polymerizable unsaturated group containing compound (paragraphs 0088-0089).

However, Bremser et al., in paragraphs 0088-0089, discloses about the coating material applied to the resultant electrocoat film, but does not disclose about the electrocoat material or the cationic electrodeposition coating composition.

The Office Action stated that Bremser et al. discloses the use of dual cure systems, wherein the coating material is curable both thermally and with actinic radiation (see paragraph 0087); that this embodiment employs both a photo-initiator (see paragraph 0090) and thermal cross-linking agent (see paragraphs 0085-0086); and that that included in the list of contemplated thermal cross-linking agents is: (1) (B) blocked poly-isocyanate (see paragraph 0086).

However, Bremser et al., in paragraphs 0085-0086, 0087, and 0090, discloses about the coating material applied to the resultant electrocoat film, but does not disclose about the electrocoat material or the cationic electrodeposition coating composition.

That is, Bremser et al. is silent about that a coating film of the cationic electrodeposition coating composition is cured by both irradiation and heating as claimed in amended Claim 1 of this application.

In connection therewith, the cathodically depositable electrocoat material does not contain (C) a photopolymerization initiator as claimed in amended Claim 1 of the present invention.

The Office Action stated: that, therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a blocked poly-isocyanate cross-linking agent in concert with a photo-polymerization initiator in the composition of Bremser et al. because Bremser et al. contemplates dual cure systems that include both a photo-initiator and thermal cross-linking agent; and that, furthermore, their list of

contemplated thermal cross-linking agents includes a blocked poly-isocyanate. Applicants disagree with this statement. As shown above, one ordinarily skilled in the art would not find applicants' claimed invention to be obvious over Bremser et al. Furthermore, the Examiner has not factually shown in the record a prima facie case of obviousness of applicants' claimed invention over Bremser et al.

This rejection should be withdrawn.

Regarding Claim 3:

Bremser et al. claims in Claim 2 as follows.

"(2) The process as claimed in claim 1, wherein the aqueous dispersion is obtainable by using the ethylenically unsaturated monomer of mixture of ethylenically unsaturated monomers and the at least partly protonated epoxy-amine adduct in a weight ratio of from 9.0:1.0 to 0.1:1.0".

As mentioned above, the ethylenically unsaturated monomer is polymerized in the epoxy-amine adduct, resulting in that the unsaturated group disappears upon polymerization and the resulting aqueous dispersion does not contain the unsaturated group.

Consequently, Bremser et al. is silent about an unsaturated group equivalent as claimed in amended Claim 3 of this application.

Therefore, the above weight ratio in Claim 2 of Bremser et al. has no relationship with the unsaturated group equivalent as claimed in amended Claim 3 of this application.

This rejection should be withdrawn.

From the above reasons, it is believed that amended Claims 1 and 3 to 5 should not continue to be rejected under 35 U.S.C. 103 (a) as being unpatentable over Bremser et al. (U.S. Published Patent Application No. 2003/0127332).

Reconsideration, reexamination and allowance of the claims are requested.

Respectfully submitted,

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